

CLAIMS

1. A test for the analysis of one or more analytes in a fluid test sample, the test comprising:

a carrier of an absorbent material;

said carrier exhibiting light reflectance within a first predetermined spectral range;

a plurality of test fields on the surface of the carrier;

said test fields including a plurality of test field materials reactive with the one or more analytes and exhibiting light reflectances within a second predetermined spectral range;

said first and second predetermined spectral ranges being distinguishable from one another;

said plurality of test fields being disposed in spaced relation to one another on the carrier, wherein gaps between the test fields exhibit light reflectance within said first predetermined spectral range;

said gaps and said test fields having relative sizes which are optically discernable;

said relative sizes forming a coded sequence that correlates to information relating to the test.

2. A test for the analysis of one or more analytes in a fluid test sample, the test comprising:

a substrate;

a plurality of test fields on said substrate;

said test fields including a plurality of test field materials reactive with the one or more analytes;

each of said test fields configured to generate at least one response within a range of responses, to light incident thereon;

said test fields disposed in spaced relation on said substrate to define a series of gaps therebetween;

said gaps and said test fields each being configured in one of a plurality of predetermined sizes;

said predetermined sizes being disposed to form a coded sequence that correlates to information relating to the test.

3. The test of claim 2, wherein the test fields comprise test pads.

4. The test of claim 2, wherein said at least one response within a range of responses comprises reflectance within a predetermined spectral range.

5. The test of claim 2, wherein the strength of said at least one response is proportional to the relative size of said test field.
6. The test of claim 2, wherein each of said gaps is configured to generate at least one other response within another range of responses to light incident thereon, said at least one other response being proportional to the relative size of said gap.
7. The test of claim 6, wherein said at least one other response comprises absorption of light incident thereon.
8. The test of claim 6, wherein said at least one other response within a range of other responses comprises reflectance within a predetermined spectral range.
9. The test of claim 6; wherein said at least one response within a range of responses comprises reflectance within a predetermined spectral range, and said at least one other response within another range of responses comprises reflectance within another predetermined spectral range.
10. The test of claim 2; wherein said substrate comprises a carrier fabricated from an absorbent material.
11. The test of claim 2 wherein the substrate is elongated, having a longitudinal axis.
12. The test of claim 11 wherein the gaps are elongated and extend substantially parallel to one another in a direction transverse to said longitudinal axis.

13. The test of claim 11, wherein said predetermined sizes comprise width dimensions of each of the gaps and the test fields, in a direction parallel to said longitudinal axis.
14. The test of claim 13, wherein said coded sequence is defined by the relative width of said gaps.
15. The test of claim 13, wherein said coded sequence is defined by the relative width of said test fields.
16. The test of claim 13, wherein said coded sequence is defined by a combination of the relative widths of said gaps and the relative widths of said test fields.
17. The test of claim 2 wherein the substrate is fabricated from a material which allows the one or more analytes and labeled antibodies specific thereto to flow through it along with the fluid test sample and to form analyte/labeled antibody conjugates which can be captured in a specific capture zone of the test.
18. The test of claim 2, wherein said predetermined sizes comprise at least two optically discernable sizes.
19. The test of claim 18, wherein said predetermined sizes comprise at least four optically discernable sizes.
20. The test of claim 2 wherein said information comprises identification of the one or more analytes for which the test is designed to test.

21. The test of claim 20 wherein said information comprises information relating to the production batch from which the test was obtained, and the date of manufacture of the test.
22. A test for the analysis of an analyte in urine which comprises:
  - a) an elongated carrier of an absorbent material which allows the analyte and labeled antibodies specific thereto to flow through it along with the urine and to form analyte/labeled antibody conjugates;
  - b) a plurality of test fields disposed in spaced relation on the surface of the carrier which capture either the labeled antibody or the analyte/labeled antibody conjugate and are capable of providing a first optically detectable response thereto;
  - c) gaps between said test fields defining a plurality of code fields, the code fields each configured to provide second optically detectable responses which are distinguishable from said first optically detectable responses;
  - d) each of said code fields and said test fields sized and shaped to have one of at least two discrete dimensional parameters, said dimensional parameters forming a coded sequence corresponding to information relating to the test.

23. An automated method of reading a test for the analysis of one or more analyte(s) in a liquid test sample which comprises the steps of:

- a) providing a test as set forth in claim 2;
- b) introducing the test into a reading device equipped with an optical reader and a correlator, the reader configured to read the test fields and the gaps, the reader including a light source as transmitter and a light sensitive element as receiver which receiver is capable of differentiating between the at least one response of the test fields and the gaps, to determine the relative size of the gaps and test fields, and the correlator configured to correlate the coded sequence with stored information concerning the test;
- c) allowing the at least one response of the test fields and the coded sequence to be read by the reader; and
- d) allowing the reader to communicate the coded sequence to the correlator and allowing the correlator to correlate the coded sequence with information concerning the test.

24. The method of claim 23 wherein the reader is capable of acquiring spatial and spectral reflectances across the length of the test.

25. The method of claim 23 wherein the information concerning the test strip comprises information based on the particular batch from which the test was obtained.

26. The method of claim 23 wherein the information concerning the test relates to which analyte or analytes the test is designed to analyze.